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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,880	02/18/2005	Satoshi Nishikawa	Q85285	3138

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SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER	
ARCIERO, ADAM A	

ART UNIT	PAPER NUMBER
1795	

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12/11/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/524,880	NISHIKAWA ET AL.	
	Examiner	Art Unit	
	ADAM A. ARCIERO	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 February 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/18/2005 and 12/19/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

FUEL CELL STACK

Examiner: Adam Arciero S.N. 10/524,880 Art Unit: 1795 December 6, 2008

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 32 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 32 recites the limitation "said organic polymer" in line 2 of claim 32. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-6, 8-9, 12-19, 21-22, 25-29 and 32 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over DAIDO et al. (US 2003/0003363 A1).

As to Claims 1-2, 12-15 and 25-27, DAIDO et al. discloses a non-aqueous secondary battery comprising an anode and cathode with their respective active materials. Said positive material is a lithium containing transition metal oxide and the negative material is a material capable of lithium doping/dedoping (pg. 1, [0002]). Said battery further comprises a non-aqueous electrolyte solution and a separator composed of a porous film made of a porous polymer, further including a network-like sheet (pg. 6, [0067]). Said separator swells in the electrolyte solution and retains said electrolyte (pg. 6, [0067]). DAIDO et al. discloses an example wherein said network-like sheet has a mean film thickness of 18 microns, a basis weight

of 12 g/m^2, gas permeability of 0.04 seconds, a McMullin number of 9, wherein the product of said McMullin number and film thickness is 162 microns (pg. 9, Example 3). Said separator has a mean film thickness of 26 microns, a basis weight of 21.1 g/m^2 and a gas permeability of 22 seconds (pg. 10, Table 1). It is the position of the Examiner that the relationship of claim 1 is inherently satisfied, given that the non-aqueous battery and specific separator of DAIDO et al. and the present application have the same materials and properties. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature is necessarily present in that which is described in the reference. Inherency is not established by probabilities or possibilities. *In re Robertson*, 49 USPQ2d 1949 (1999). Applicant is advised to submit other information with respect to the DAIDO et al.'s non-aqueous battery, if it is shown to be patentably distinct from the instant invention.

Alternatively, it would have been obvious to one of ordinary skill in the art to adjust the amount of lithium utilized in the battery and the value for the overcharge-preventing function in order to provide a low-cost battery with appropriate safety characteristics during overcharge (pg. 1, [0001]).

As to Claims 3-6 and 17-19, DAIDO et al. discloses wherein the positive active material is $LiNiO_2$, $LiMn_2O_4$ or $LiCoO_2$ (pg. 4, [0062]).

As to Claims 8, 21 and 28, DAIDO et al. discloses wherein said network-like sheet is a non-woven fabric (pg. 5, [0075]).

As to Claims 9, 22 and 29, DAIDO et al. discloses wherein said non-woven fabric is composed of aromatic polyamides or polyesters (pg. 5, [0078]).

As to Claim 32, DAIDO et al. discloses the organic polymer as being PvdF (pg. 6, [0082]).

9. Claims 7 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over DAIDO et al. (US 2003/0003363 A1) as applied to claims 1-6, 8-9, 12-19, 21-22, 25-29 and 32 above, and further in view of NAKAMIZO et al. (US 2001/0004504 A1).

As to Claims 7 and 20, DAIDO et al. does not expressly disclose wherein the positive active material is composed of lithium manganate and lithium nickelate. However, NAKAMIZO et al. teaches a nonaqueous battery comprising a positive electrode material of $LiCoO_2$, $LiNiO_2$ and/or $LiMn_2O_4$ (pg. 5, [0070]). NAKAMIZO et al. is clearly teaching that a positive active material of $LiNiO_2$ combined with $LiMn_2O_4$ is considered functionally equivalent to the active material of $LiCoO_2$, $LiNiO_2$ or $LiMn_2O_4$ of DAIDO et al. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to substitute the positive active material of $LiNiO_2$ combined with $LiMn_2O_4$ for the positive active material of DAIDO et al., because NAKAMIZO et al. teaches that they are recognized equivalents.

10. Claims 10-11, 23-24 and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over DAIDO et al. (US 2003/0003363 A1) as applied to claims 1-6, 8-9, 12-19, 21-22, 25-29 and 32 above, and further in view of WATANABE et al. (US 6,083,644).

As to Claims 10-11, 23-24 and 30-31, DAIDO et al. discloses a separator comprising a network-like support made of a non-woven fabric. DAIDO et al. does not expressly disclose the network like support as being a glass cloth. However, WATANABE et al. teaches of a non-

aqueous electrolyte secondary battery (Title) comprising a separator of a porous material which does not have electron conductivity having open pore and a durability against electrolytic solution and the active material. Said separator can be non-woven fabric, or a cloth comprising glass fibers (col. 13, lines 50-63). Non-woven fabric separators and a glass fiber cloth separator are considered functionally equivalent separators for non-aqueous electrolyte batteries. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to substitute a glass cloth separator for the non-woven separator of DAIDO et al., because WATANABE et al. teaches that they are recognized equivalents.

Double Patenting

11. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

12. Claims 1-2, 8-9, 12-15, 21-22, 25-29 and 32 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 8, and 10-12 of U.S.

Patent No. 6,818,352 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of '352 patent anticipate the instant claims. See *In re Goodman*, 11 F.3d 1046, 29 USPQ 2d 2010 (Fed. Cir. 1993).

As to Claims 1-2, 12-13, 15 and 25-26, the overcharge-preventing function, total amount of lithium in the active material, weight of positive and negative active materials, etc. are all parameters that may be routinely manipulated.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADAM A. ARCIERO whose telephone number is (571)270-5116. The examiner can normally be reached on Monday to Friday 8am to 5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on 571-272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AA

/Dah-Wei D. Yuan/
Supervisory Patent Examiner, Art Unit 1795